Message

From: Wells - CDPHE, Dale [dale.wells@state.co.us]
Sent: 11/30/2021 8:21:47 PM
To: Group Mobile [Mobile@epa.gov]
CC: Dresser, Christopher (FHWA) [christopher.dresser@dot.gov]; Horn, Chris (FHWA) [Chris.Horn@dot.gov]; Lohrke, Gregory [lohrke.gregory@epa.gov]
Subject: Re: I-270 MSAT analysis approach

I had initially planned to use the rates mode to calculate emission factors, relate them to the link data from the TDM output link by link, hour by hour. CDOT has convinced me to use inventory mode because that is what the guidance suggests and nthey are afraid of being sued.

I plan to calculate the speed distributions by HPMS class based on TDM model output speeds on a VMT weighted hourly basis. Speeds will be binned by the MOVES speed bins.

On Tue, Nov 30, 2021 at 12:49 PM Group Mobile <Mobile@epa.gov> wrote:

> Hello all,
>
> The MOVES3 Technical Guidance that Chris mentioned includes guidance about deriving an average speed distribution, in Section 4.6. Note the Section 4.6.1 of the guidance says,
>
> > As is the case for other MOVES inputs, EPA does not expect that users will be able to develop distinct local speed distributions for all 13 source types. If a local average speed distribution is not available for some source types, states can use the same average speed distribution for all source types within an HPMS vehicle class. For example, states could use the same average speed distribution for source types 31 and 32 if separate average speed distributions for passenger trucks and light commercial trucks are not available. States could also use the same speed distributions across multiple HPMS vehicle classes if more detailed information is not available.
>
> However, I am curious about the use of an average speed *distribution*, if this is a project-level analysis. At the County Scale, speed is entered in MOVES as a distribution. However, at the project scale, there are three possible ways to account for running activity, discussed in the PM Hot-Spot Guidance in Section 4.5.8. One of them is using the average speed on the link for the hour being run. So, is that how you're describing running activity for this project? Is the distribution so that you can get different average speeds for the various hours you are modeling?
>
> Cc'ing EPA Region 8, just to keep them in the loop.
>
> U.S. EPA MOVES Team
>
> https://www.epa.gov/moves

MOVES3 Q & A here: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1010M06.pdf

MOVES3 Cheat Sheets: https://github.com/USEPA/EPA_MOVES_Model/tree/master/docs

MOVES FAQ here: https://www.epa.gov/moves/frequent-questions-about-moves-and-related-models

MOVES3 Overview and Guide to Docs: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1011KV2.pdf

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From: Dresser, Christopher (FHWA) <christopher.dresser@dot.gov>
Sent: Monday, November 29, 2021 1:39 PM
To: Dale Wells <dale.wells@state.co.us>
Cc: Group Mobile <Mobile@epa.gov>; Horn, Chris (FHWA) <Chris.Horn@dot.gov>
Subject: RE: I-270 MSAT analysis approach

For the I-270 project, my understanding is that CDOT/DRCOG will be providing you with traffic data for the build and no-build for all links in the project. From that information, the avg speed distribution can be readily calculated for each hour/day period. I don't expect you'll have speeds for each source type, so many of the distributions will be repeated for multiple source types (perhaps HD and LD speeds that can be used for their respective source type categories). And as noted in your email below, keep in mind when calculating the fractions by speed bin, that these should be by VHT (not VMT).

I'm not familiar with what format you're getting the traffic data, but it seems like it should be relatively straightforward to generate the avg speed distribution for whatever you get, but please let me know if you need additional guidance.

Since you **Cced EPA** – is there anything that OTAQ would add in terms of deriving the avg speed distribution input? And Dale, there's more recent EPA technical guidance that goes into some of the detail I mentioned. I don't think much changed, but this would supersede the MOVES2014b guidance and can be used for MSAT analysis.

From: Wells - CDPHE, Dale <dale.wells@state.co.us>
Sent: Monday, November 29, 2021 11:26 AM
To: Dresser, Christopher (FHWA) <christopher.dresser@dot.gov>
Cc: mobile@epa.gov
Subject: Re: I-270 MSAT analysis approach

Chris,

Do you have any suggestions on calculating the average speed distribution? The Guidance refers to the MOVES2014b guidance which states:

This tab inputs data on speed distribution by road type, hour, and Speed source (vehicle) type. MOVES has 16 speed bins ranging from 2.5 to Distribution 75+ mph. Average Speed Distribution is in terms of time, not distance (i.e. fraction of VHT, not VMT, for each speed bin). MOVES table is AvgSpeedDistribution

Dale

On Mon, Nov 15, 2021 at 10:31 AM Dresser, Christopher (FHWA) <christopher.dresser@dot.gov> wrote:

> Folks,
>
> I was able to check in with FHWA HQ about the modeling issues we discussed last week. I had expressed a concern that CDPHE was proposing a methodology for MSAT analysis that was "off-script" and not entirely consistent with FHWA MSAT modeling guidance – specifically using a "rates" approach vs. the recommended "inventory" approach. I want to reiterate that we believe inventory should be used to develop MSAT inventories. However, the methodology proposed by CDPHE is also sufficient to accurately calculate the necessary MSAT emissions, criteria pollutants, and GHGs for the no-action, build, and no-build scenarios. However, as stated in FHWA MSAT guidance, "any such deviation from these recommendations [as is suggested] should include documentation in the project file." Further, CDPHE will need to provide all post-processing scripts, intermediate tables, and documentation of the precise steps taken to obtain the summary MSAT totals from the link-based traffic data.
>
> I hope this helps. Please let me know if you have any follow-up questions.
>
> **Chris Dresser**
>
> Air Quality Modeling Specialist
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> Environment, Air Quality and Realty Team

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